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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,888	03/15/2005	Patrick Galili	FR02 0096 US	5845

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EXAMINER	
LAM, KENNETH T	

ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
10/16/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/527,888	GALILI ET AL.	
	Examiner	Art Unit	
	KENNETH LAM	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. The request filed on 08/01/2008 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 10/527888 is acceptable and a RCE has been established. An action on the RCE follows.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 4 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 1-11 are objected to because of the following informalities:

Claims 1 and 4 recites the limitation "windows (WID), current window (WID), and a window (WID)". It is confusing with three different windows sharing a same symbol. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (Wang herein after) (US 7,200,799 B2) in view of Giese et al. (Giese herein after) (US 2003/011539 A1).

Re Claims 1 and 4, Wang discloses a method and a decoder for decoding data, said method comprising iterations with some steps (SISO1, SISO2) (SISO decoder 1 **221**, SISO decoder 2 **222**, Figure 2B) using windows (WID) (segmented sliding window, column 7 line 35 – column 8 line 27) of input data, characterized in that the method comprises, for a current window (WID) of a step (SISO1, SISO2) within an iteration the steps of:

Performing a forward recursion (column 3 line 54 – column 4 line 13), wherein said forward recursion is initialized with a forward state metric vector (α) from a upper stake (STK) of a previous window of the same step (SISO1, SISO2) of a previous iteration (Figure 4, column 7 line 35 – column 8 line 27) (Figure 5, column 9 lines 7-27), a window (WID) comprising a lower and an upper stake (STK) (Figure 3, column 4 line 21 – column 5 line 24), and

Performing a backward recursion (column 3 line 54 – column 4 line 13), wherein said backward recursion is initialized with a backward state metric vector (β) from a lower stake (STK) of a next window of the same step (SISO1, SISO2) of a previous iteration (Figure 4, column 7 line 35 – column 8 line 27) (Figure 5, column 9 lines 7-27).

Wang discloses the claimed invention except for explicitly discloses wherein the lower and upper stakes comprise a lower and upper metric vector initialization value independent of time. However, Giese teaches methods and apparatus for turbo decoding wherein the lower stake comprises a lower metric vector initialization value independent of time and the upper stake comprises an upper metric vector initialization value independent of time ([0074]-[0079]). Giese teaches parallel forward and backward recursion with initialization value independent of time (Figures 10, 12). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the disclosure as taught by Giese with the teachings as taught by Wang to achieve the same expected result and to further improve the decoding efficiency.

Re Claims 2 and 8, the combined teachings disclose a method and its apparatus as claimed in claims 1 and 4, Wang discloses they characterized in that the forward state metric vector (α) computed last is stored in an upper stake of said current window (WID) during the forward recursion (Figure 5, column 9 lines 7-27), and the backward state metric vector (β) computed last is stored in the lower stake (STK) of said current

window (WID) during the backward recursion (Figure 3, column 4 line 21 – column 5 line 24) (column 5 line 28 – column 6 line 52).

Re Claims 3 and 9, the combined teachings disclose a method and its apparatus as claimed in claims 1 and 4, Wang discloses they characterized in that all the windows (WID) of a step (SISO) are processed in parallel (column 7 line 36 – column 9 line 6).

Re Claim 5, Wang discloses a receiver adapted to receive input data, said input data being processed by the decoder as claimed in claim 4 (Figure 1).

Re Claim 6, Wang discloses a computer program product for a receiver, comprising a set of instructions which, when loaded into said receiver, causes the receiver to carry out the method as claimed in claims 1 to 3 (column 16 lines 16-54).

Re Claim 7, Wang discloses a computer program product for a computer, comprising a set of instructions which, when loaded into said computer, causes the computer to carry out the method as claimed in claims 1 to 3 (column 16 lines 16-54).

7. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (Wang herein after) (US 7,200,799 B2) and Giese et al. (Giese herein after) (US 2003/0115539 A1) as applied in claims 1 and 4 above, and further in view of Change et al. (Change herein after) (US 2003/0028838 A1).

Re Claims 10 and 11, the combined teachings disclose a method and a decoder as claimed in claims 1 and 4, except explicitly teaches initialization of the backward recursion by a termination generator. However, Chang teaches a method and a system for turbo decoding characterized in that the backward recursion is initialized with a metrics vector computed by a termination generator, wherein the metric vector is a function of tail bits, and is processed ([0094]).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the end note state determination as taught by Change with the decoder and its method of decoding as taught by Wang to further improve the decoder accuracy and speed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH LAM whose telephone number is (571)270-1862. The examiner can normally be reached on Mon - Fri 7:30 am - 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KENNETH LAM/
Examiner, Art Unit 2611
10/06/2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611